In the Claims:

Please amend the claims as follows.

1. (currently amended) A method for equalizing heat distribution across a catalyst in a tube reactor comprising loading a tube <u>having an axial center</u> with a catalytic monolith to thereby provide said tube reactor; wherein said catalytic monolith is a ceramic monolith support impregnated with a catalytically reactive metal; wherein said catalytically reactive metal is selected from the group consisting of nickel, cobalt, and molybdenum; and wherein said catalytic monolith defines a flow path oriented so as to direct heat <u>inwardly</u> towards a <u>said axial</u> center of said tube.

Claims 2-4 (canceled).

- 5. (currently amended) A method for equalizing heat distribution across a catalyst in a tube reactor comprising loading a tube <u>having an axial center</u> with a catalytic monolith to thereby provide said tube reactor; wherein said catalytic monolith is a ceramic monolith support impregnated with a catalytically reactive metal; wherein said catalytically reactive metal is silver and wherein said catalytic monolith defines a flow path oriented so as to direct heat <u>outwardly</u> away from <u>said axial</u> a center of said tube.
- 6. (previously presented) A process for the production of styrene by the dehydrogenation of ethylbenzene, said process comprises:

providing a tube;

providing a tube reactor by loading into said tube a catalytic monolith having a center and channels molded therein for directing a feed therethrough so as to direct the flow of heat toward said center of said catalytic monolith;

introducing said feed into said tube reactor operated under dehydrogenation conditions; and yielding a dehydrogenation product.

- 7. (previously presented) A process as recited in claim 6, wherein said catalytic monolith comprises iron oxide useful in the catalytic dehydrogenation of ethylbenzene to styrene.
- 8. (previously presented) A process as recited in claim 7, wherein said catalytic monolith has a length and a shape that approximates the shape of said tube.
- 9. (previously presented) A process as recited in claim 8, wherein said tube has an inner diameter and said catalytic monolith further has a diameter just smaller than said inner diameter of said tube.
 - 10. (currently amended) A method, comprising:

providing a tube having a tube shape and a an axial tube center; and

providing a tube reactor by loading into said tube a catalytic monolith having a shape which approximates said tube shape and having channels molded therein for directing fluid flow therethrough such that heat is directed toward said <u>axial</u> tube center to thereby equalize the temperature profile across said tube when operating said tube reactor as an endothermic reactor system.

- 11. (previously presented) A method as recited in claim 10, wherein said channels of said catalytic monolith are impregnated with a catalytically reactive metal so as to make said channels effective as a catalyst.
- 12. (previously presented) A method as recited in claim 11, wherein said catalytically reactive metal is selected from the group consisting of nickel, cobalt, molybdenum and silver.
- 13. (previously presented) A method as recited in claim 12, wherein said catalytically reactive metal is silver.
- 14. (previously presented) A method as recited in claim 10, wherein said catalytically reactive metal is nickel.

- 15. (previously presented) A method as recited in claim 10, wherein said catalytically reactive metal is cobalt.
- 16. (previously presented) A method as recited in claim 10, wherein said catalytically reactive metal is molybdenum.
 - 17. (currently amended) A method, comprising:

providing a tube reactor by loading into said tube a catalytic monolith having a shape which approximates said tube shape and having channels molded therein for directing fluid flow therethrough such that heat is directed toward said tube inner diameter from said <u>axial</u> tube center to thereby equalize the temperature profile across said tube when operating said tube reactor as an exothermic reactor system.

providing a tube having a tube shape, a an axial tube center, and a tube inner diameter; and

- 18. (previously presented) A method as recited in claim 17, wherein said channels of said catalytic monolith are impregnated with a catalytically reactive metal so as to make said channels effective as a catalyst.
- 19. (previously presented) A method as recited in claim 18, wherein said catalytically reactive metal is selected from the group consisting of nickel, cobalt, molybdenum and silver.
- 20. (previously presented) A method as recited in claim 19, wherein said catalytically reactive metal is silver.
- 21. (previously presented) A method as recited in claim 17, wherein said catalytically reactive metal is nickel.
- 22. (previously presented) A method as recited in claim 17, wherein said catalytically reactive metal is cobalt.

23. (previously presented) A method as recited in claim 17, wherein said catalytically reactive metal is molybdenum.